pentenenitrile in this stream has been greatly enriched, and can be isomerized to trans-3-pentenenitrile. This makes it possible to enhance the overall yield of ADN.

Stream 18 contains very predominantly 3-pentenenitriles and is returned into the hydrocyanation stage.

Neither Walter alone, nor the combination of Walter with Tam leads to the present invention.

In the removal of the extractant to recover the catalyst in process step (1 d), in a preferred embodiment of the present invention, 3-pentenenitrile is added to the distillation as an intermediate boiler. Example 2 states: "In addition to stream 6, 3kg/h of 3-pentenenitrile are metered to column K 4, consisting of 98% in total of trans-3-pentenenitrile, cis-3-pentenenitrile and 4-pentenenitrile, and also small amounts of other pentenenitriles."

The addition of pentenenitriles into column K 4 has several advantages:

- Effective depletion of the extractant from the high-boiling catalyst stream is possible at evaporator temperatures which are low enough not to thermally damage the nickel catalyst. At the same time, the pressure is still high enough to be able to condense the comparatively low-boiling extractant at the top of the evaporator stage or column at customary cooling water temperatures of 25-50°C.

- The flowability and monophasicity of the catalyst solution is ensured. Catalyst constituents may crystallize out without the addition of 3-pentenenitrile.

- No additional material is required.

- 3-Pentenenitrile in the recited amounts does not have a disruptive effect on the process according to the invention.

In view of the above remarks it is respectfully submitted that this application should be passed to issue.

Respectfully submitted,

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